

TO PRESERVE FORESTS

PURPOSE OF RESERVE SYSTEM IS TO SAVE OREGON'S GREATEST SOURCE OF WEALTH FOR THE PEOPLE'S GOOD.

THE forests of Oregon are conceded to be among the best of the continent. They constitute one of the chief natural resources of the state, and are just beginning to be generally intelligently appreciated. The giant sugar pines, red fir, hemlocks, yellow pines and cedars of our forests are marvels of tree growth.

Nature has not only richly endowed Oregon with dendrological giants, but she has lavished upon otherwise raw, bleak and barren mountain tops and sides a magnificent variety of trees and shrubs that do yeoman service in equalizing climatic conditions and beautifying a landscape that becomes entrancing to every homebuilder.

But it is not of the beauty, but the economy of these forests that I may at this time speak, though their beauty, if it be fully known, is no less an important economic factor in a community. The wealth of Oregon's forests, estimated by the crude means of our present-day methods in such matter, is placed at two and one-half billions of dollars—certainly a most conservative total. The yearly output, based upon estimates made in the same way as above, is approximately \$7,000,000. Yet no one at all familiar with Oregon forest conditions would hesitate to say that this output might be very greatly increased and still in nowise menace the lumbering industry of the state, providing the field operations were conducted upon the principles of improved modern forestry.

The annual loss of timber in the forests of Oregon, due to premature death and the decay of over-matured trees is enormous; and yet the conditions surrounding much of this are such that under present methods and commercial requirements it is quite impracticable for private enterprise to avail itself of this mature timber and at the same time leave the land covered with a quantity of marketable timber not yet fully matured. In other words, much of the present forest crop is wasted because private enterprise is incapable of harvesting it to advantage. If, instead of cutting off clean as they go, they should only take that part of the crop which, if left longer, would separate in value, then could the annual forest output of the state be materially increased with less draft upon the resource than at present. This is impracticable from a private business standpoint. Some purpose farther-reaching than one of present financial gain must govern the operations required to harvest such a crop under such conditions as now exist.

This is one feature of the question of how to get the most good out of our forests that the National Bureau of Forestry is undertaking to solve.

How to Harvest the Tree Crop.
Reserves and forest withdrawals are preliminary to the more immediate problems of harvesting the crop as it matures without loss to the state.
At the present pace of wasteful lumbering, it will not take more than 20 years to remove practically the original forest growth of Oregon and reduce the lumber industry to a bare pittance. If the estimates of the National Geological Survey are approximately correct.

Of course no lumbering company will admit carelessness in harvesting the present crop, from its standpoint. For it only takes that part of the timber from

which it may derive a profit. That which is left is the waste, and it is this part that a wise National policy would save, instead of giving it over to the usual fire, which destroys oftentimes much more than originally has been harvested from the area. It is this left-over timber, hemlock, white fir, silver fir, noble fir, that is left to protect the land and nurse the new growth of reforestation, and for which in the near future we will find valuable uses, that is the waste of present methods. If the young, healthy trees of the species of economic value were protected against careless felling, fire and useless cutting, and the disease-infested trees of all species were removed, the cut-over forest areas would be left in the best possible condition for renewal, whereas today they are usually left in very bad, if not the worst, condition for renewal.

If the system of roadways, tramways, water courses and other means of transporting the harvested crop and conducting the field operations could be put upon a permanent basis, rather than upon the temporary basis of the present-day operations, what a vast saving ultimately would be effected in those sections where the tree crop is destined to be the most valuable crop grown. Still such a system of construction is not compatible with private investment in an industry that yields no larger returns than lumbering in Oregon today.

Purpose of Forest Reserves.
Much of the forested area of the state has been withdrawn from entry within the past few years, and a great cry has gone up that the people are being denied their heritage, a great industry crippled and a state's progress checked. Let us see.

The Government in its wisdom has established a Bureau of Forestry for the purpose of studying the forest conditions of the Nation, and recommending courses of procedure whereby the Nation's best interests may be subserved in so far as the forests touch upon the Nation's life.

Land laws have been enacted. Unscrupulous persons and corporations have abused the spirit of these laws, and title to great tracts of timber land has been acquired by doubtful or even questionable means, causing at the same time the burden of complaint to fall upon legislation, the original purpose of which was to protect the people of state and Nation against the dire influences of careless or wanton forest denudation.

Forestry in its widest sense means a rational treatment of the forest. To this it would seem that no loyal citizen could take exception, but since few of our citizens realize what is meant and intended by a rational forest treatment, it is no surprise that a great uproar has been made against the practice of the Government in creating reserves and issuing withdrawals.

It is only in the older sections of the country and world that the people fully understand the importance of this subject. It is not strange that the people of a state in its infancy should look askance at a parent-Government as it lays hold of one of its great natural resources and says: "Only to use; not to abuse." And especially when the child has grown up well-nigh ignorant of the real value and far-reaching influences of such resource, not alone upon its present needs, but its future welfare, physically, socially, financially, morally and spiritually.

One needs but to see Southern France and other portions of continental Europe to appreciate how the wanton destruction of the forest area debases the man by

making the country bleak, inhospitable and unproductive.
Some months ago Mr. Gifford Pinchot, at a meeting in Portland, said: "It is the purpose of the Government to use for permanent forest reserves only such territory as will insure to the people of a state larger returns when kept growing timber trees than when used for other purposes." This is the keynote of intelligent forestry in any section. The common error of confusing game preserves and forest reserves is responsible for much of the misunderstanding that exists in the common mind today regarding the Government forest policy.

Nation Will Adopt System.
Temporary withdrawals of forested areas are necessary in order that a full study of the existing conditions of the section may be made. When it is found that the area seems to promise better returns as a tree-raising tract, then it is put into a reserve. This does not mean that it is withdrawn from public or national usefulness. It merely implies that a national system, approved by the best intelligence of the Government can command, will be instituted to harvest the mature crop upon the land and protect the future crops that will arise from the young growth upon the land. This course insures a permanent crop upon land which, as is too often seen at present, following the wasteful methods of pioneer lumbering, is left unfit for any use. It does not follow from this course that private enterprise will be hampered. But it will follow that the lumbering crews on the National domain will adopt the very best improved methods for handling the crop under the supervision of trained experts in the Government service.

Land lying within the reserved-timber tracts that will give a larger income from grazing than from lumbering will, in due time, be used for pasturage. The pasturing will be done not as in the past, according to the whims and fancies of each stock-owner, but according to a well-defined system through which means the very highest return compatible with permanency shall be obtained from the tracts pastured.

Of Vital Interest to Oregon.
While Eastern Oregon's interest in forestry centers largely about that phase of the subject relating to watersheds, reservoirs and water retention, the interest of Western Oregon centers largely in soil retention, scenic effects, regulation of waterflow and the perpetuity of a great industry upon a section of the state's territory upon which no other industry could thrive with equal success.

Once the trees are removed from the western slope of the Cascades, much of the soil now deposited in the crevices of rocks and enmeshed with tree roots will slip down into the valleys below; rocks now kept in place and gradually undergoing decay through the presence of moisture and low plant forms would be exposed to such open weathering influences as would check and break them off. These fragments in their course down the mountain slopes and along the streams in flood times become the boulders which are deposited oftentimes in great masses along the river's course or spread out on some fertile valley.

The destructive results of such an erosive action are exemplified in miniature in every hydraulic mining section. To remove the timber from the Cascades without due consideration for its continuous renewal would be to make the Willamette Valley the resting place for the tailings of a system of erosion that would

surpass anything yet recorded in the history of our civilization.

Only through such perpetual, judicious oversight as a Government may give can we hope to see a system followed in the harvesting of the timber crop of the Cascades that will perpetuate the crop, maintain the beneficial influences of forestal cover on our rough and broken mountain ranges and keep intact an industry the importance of which is growing day by day at a marvelous pace.

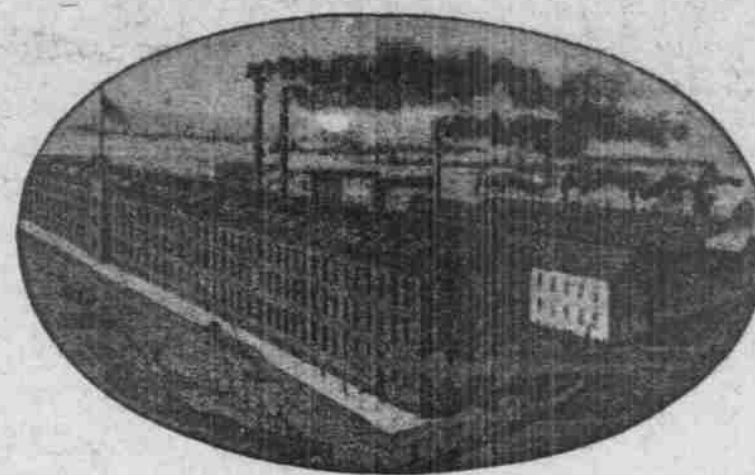
Playgrounds for the People.

In many sections of New England are quite considerable areas of abandoned lands which were formerly occupied by prosperous homes. In later years much of this land has become covered with an indifferent growth of timber. It is now being resettled, and instead of cropping the land as before, the new settlers are raising a crop of "summer boarders, with astonishing profit." The congested life of the great cities is looking to these woodland homes for recreation, and in conjunction with the mountain resorts they are becoming the great revitalizing agents in the high-pressure civic life of our day.

The time is coming when the great masses of people that will be settled upon our coast and in the irrigable sections of the interior will find it necessary for their best development that they have a timbered playground where they may be revived each year. And this playground in a section producing annual crops of valuable lumber would be the acme of

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COLUMBIA SOUTHERN RAILROAD COMPANY

WHAT IT HAS DONE AND IS DOING FOR THE RECLAMATION AND DEVELOPMENT OF THE SEMI-ARID DESCHUTES VALLEY, WHERE SAGEBRUSH IS GIVING WAY TO FIELDS OF WAVING GRAIN

Deschutes Valley.

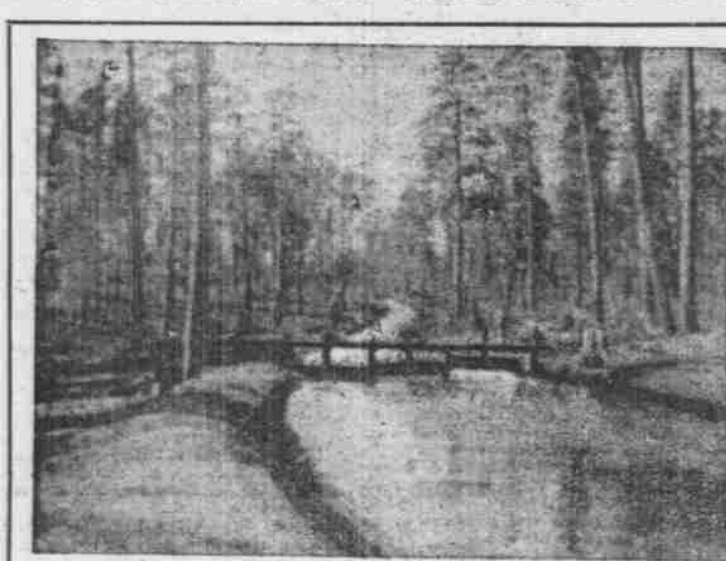
SOMUCH has been written of the future development and possible growth of the Deschutes Valley that the writer of this article is practically without a subject in that direction. However, since the development of the country during the past year has made for us a foundation of facts, it may be admitted that much that has been written before was to some extent a matter of speculation.

No less than 1000 homesteaders have found homes in Crook County during the year 1903. Large areas of land, two years ago barren of vegetation other than a very little grass and a wonderful growth of sagebrush, have been transformed into thrifty farms producing, generally, much better crops of every variety of grain than was anticipated by the most hopeful settler. Land that was supposed to require irrigation to insure anything more than the return of the seed has shown wonderful productive qualities under adverse conditions. Nature was not particularly kind to the settler in Crook County this year. Yet, notwithstanding the precipitation and other climatic conditions were below the average, the crops throughout the entire county were, in some cases, 25 to 30 per cent better than many outside localities, and where irrigation was possible the grain and hay crops were immense. The soil and climate are well adapted to growing the highest grade of sugar beets. This fact was abundantly demonstrated during the past season in a number of localities along the Deschutes River. It needs no further demonstration to prove that sugar-beet raising will establish a profitable industry here. Soft, clear water for use in manufacture, and water power for the machinery, as well as the irrigation so essential in this business to carry the beets through the heat of summer, all combined will induce the colonization in certain districts of the class of labor that will insure success in the production of beets in large quantities.

One Ditch Done.

About November 1, the finishing touches were put on the Columbia Southern Irrigation Company's first ditch, and the enterprise is safely on its feet. There are about 40 miles of ditch—main, laterals and sublaterals, and fully 10,000 acres of the company's segregation are under the ditches. Perhaps 3000 to 5000 acres of homesteads already in private holdings are also under these canals. These have heretofore been cultivated without artificial watering, but they will do much better under irrigation. Construction work on this ditch was begun last May under the superintendence of Colonel C. F. Smith, of Lamona, who is a man of wide experience in irrigation work. It has been pursued without interruption to completion. The most difficult part of the work was at and near the headgate. The water is taken from the north side of the Tumello River, in section 2, township 15 south, range 10 east. From there a shelf on the side of the

mountain was made for a distance of about two and a half miles to carry the canal. On the upper side, the bank rises precipitously about 40 feet, and on the lower side there is a descent nearly as great. On this part of the route the water is carried on a very gentle gradient, for a swift



CANAL OF COLUMBIA SOUTHERN IRRIGATION COMPANY.

current would be likely to do damage there. About a mile and a half below the headworks is a 30-foot fall. This was very abrupt when the canal was made, but it has since been modified by the washings of the current. Half a mile farther along the course the water rushes down a steep hill about 30 feet. Both these falls afford fine water-power that will doubtless be utilized at some day not far distant. Coming off the artificial shelf, the

canal plunges into a canyon for another mile or so, and then it emerges into the open country, where construction was a comparatively simple matter. At one point two miles above the county-road crossing, the canal was blasted out of the solid rock for a distance of about 15 rods. Soon

even 1200 feet. The current in such a channel is necessarily rapid, but there is no fear that it will injure the banks. The county road between Bend and Sisters crosses the main canal near the center of section 15, township 15 south, range 11 east, which is, perhaps, ten miles from the headworks. A short distance below the crossing the first lateral is taken out, passing to the northward about three miles, or half way to the reservoir site in sections 20 and 21, township 15 south, range 11 east. Near where this ditch crosses the township line a sub-lateral is taken out and carried more than a mile to the J. E. Wimer desert claim, where it forks and distributes water through sections 21, 27 and 28.

Another lateral leaves the main canal on the left-hand side, where it crosses the line between townships 16 and 17, passing northerly and branching out to sections 24, 27, 28, 23 and 25. Almost directly opposite the head of this lateral another leaves the main canal and goes out easterly to carry water to sections 1 and 2 in 17-11 and section 36 in 16-11.

In the southeast corner of section 28, 16-11 east, another important lateral leaves the main canal to carry water to the northern row of forties in section 9, 16-12 east, a distance of more than six miles. This passes through the Nicholas and Templeton homesteads, and the remainder of the course is through the company's arid land segregation. One sub-lateral goes out to the east part of section 17 and another on the opposite side up into section 7.

The main canal passes northward along the easterly line of section 12, 16-11 east, then crosses into township 16-11 east, and at the easterly line of section 7 a little above the middle of the section. Just before it crosses the township line it gives out another lateral about two miles long, leading north and bending around into the north half of section 6, 16-12.

The total length of the ditch, main, laterals and sublaterals is about 40

miles. The route of the waterway is so chosen that it is an easy matter to lead water away on either side.

From the headworks the first ten miles of canal is over land more or less timbered. The remainder of the course is through the open, arid country, where irrigation is essential to successful agriculture. The soil is much better than the average arid soils of Oregon and the climate is not too severe for the production of ordinary fruits. The country served by the Columbia Southern Irrigation Company is expected to be a great fruit country.

The company expects to fence both sides of the canal and erect a telephone line along this, with stations at convenient intervals, so that notice may be promptly given at the headgates of anything requiring adjustment of the water supply.

The company is now engaged in preparing a hundred-acre tract for the purpose of establishing an experimental farm. This farm will be increased from time to time when necessary; it is to be conducted by a man of long experience in irrigated lands, and is to be conducted solely for the benefit of the settlers. The early ex-

periments will be in the growth of grains and grasses, sugar beets and other vegetables, to be followed by experiments in fruits and berries. In fact, the experimental station will be permanent and will certainly expedite the development of the country.

The Columbia Southern Irrigation Company will resume work in the early spring. It is expected that the balance of the company's segregation will be supplied with water by July 1, 1904.

The Columbia Southern Irrigation Company is operating under the Carey desert-land act.

The act, commonly known as the "Carey act," is an act of Congress, approved January 15, 1902, authorizing the Secretary of the Interior, with the approval of the President, to contract and agree to patent to the State of Oregon, or any other state, as provided in the act, in which may be found Government desert lands, not to exceed 1,000,000 acres of such lands to each state, to aid in reclamation, settlement, cultivation and sale there-

of in small tracts to actual settlers under certain conditions.

The State of Oregon has accepted the grant as provided in the said act, and has framed in a law conditions permitting any person, company or persons or corporation desiring to enter into contract to reclaim, as required by the acts granting such lands to the state, any tract of desert Government land in the state.

The state regulations, in substance, require filings for approval of all maps, surveys, plans and estimates for irrigation and reclamation of desert lands applied for; the state to regulate the cost of construction of ditches, maintenance fees (rentals), and other expenses.

Under the state regulations the entire expense of construction of ditches necessary to reclaiming said lands is divided pro rata per acre for each tract or subdivision, and the irrigation company is given a lien as security for the cost of reclamation, with interest at 6 per cent per annum, from the time said land is reclaimed until said lien shall have been satisfied. It is the duty of the State Land Board to ascertain and fix the amount of the lien in advance and to insert it in the contract between the state and the irrigation company.

Under this act any citizen of the United States may, on application to the irrigation companies, secure not less than 40 acres nor more than 160 acres of such reclaimed lands, regardless of exhausted land rights.

Full information concerning these lands and the way to acquire them may be obtained on application to the general office of the Columbia Southern Irrigation Company, 547 Worcester block, Portland, Or.



DESCHUTES RIVER NEAR WORKS.

Of the 27,000-acre segregation covered by this enterprise, considerably more than half is already disposed of under contract. The segregation having been approved by the state and the Secretary of the Interior, a number of the settlers have moved on and commenced improvements; others will wait till spring. A large area of new land will be under cultivation there next season, and there is an abundance of water for all-comers.

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DESERT LAND TO BE IRRIGATED.